

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [1120955004](#)  
**Status:** **Active**  
**Overview:** [brad industrial ethernet products](#)  
**Description:** BradControl™ Class 60mm 8 Port IO module, 14 Inputs, 2 Outputs NPN

**Documents:**

[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

**Agency Certification**

UL E200650

**General**

Product Family Industrial I/O Modules  
 Series [112095](#)  
 IP Rating IP67  
 Mechanical Shock 10G, 11ms, 3 AXIS  
 Overview [brad industrial ethernet products](#)  
 Product Name HarshIO Ethernet  
 Protocol EtherNet/IP  
 Style Classic

**Physical**

Bus Input 5-pole Micro-Change® (M12)  
 Bus Output 5-pole Micro-Change® (M12)  
 Housing Width 60.00mm (2.362")  
 I/O Connector 5-pole Micro-Change® (M12)  
 I/O Signal Mix 14 input / 2 output  
 Ports 8  
 Power Input 4-pole Mini-Change®  
 Power Output 4-pole Mini-Change®  
 Temperature Range - Operating -25°C to +70°C  
 Vibration IEC 60068-2-6 Conformance

**Electrical**

Current - Maximum per Contact 2A per channel  
 EMC IEC 61000-6-2  
 Input Delay 2.5ms  
 Input Device Supply 200 mA per port at 25°C  
 Input Type NPN or Dry Contact

**Material Info**

Old Part Number TCDEI-8C2N-D1U

**Reference - Drawing Numbers**

Sales Drawing SD-112095-5003

**EU RoHS**  
**ELV and RoHS**  
**Compliant**  
**REACH SVHC**  
**Not Reviewed**  
**Halogen-Free**  
**Status**  
**Not Reviewed**

**China RoHS**



**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**Search Parts in this Series**

[112095Series](#)



The BradControl™ IP67 I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh environments.

## EtherNet/IP™ Discrete I/O Module

### IP67 Classic Module

#### Features

- Scrolling 4 characters status display for IP addressing and module status
- Built-in 2-port Ethernet switch
  - 10/100 Mbps auto-sensing and crossover capability
- Built-in web server for remote monitoring, configuration and diagnostics
- Configurable I/O capability (through web interface & EtherNet/IP commands)
- Accepts M12 threaded connectors or BradConnectivity™ Ultra-Lock™ connection system
- Supports PNP & NPN input devices
- Several I/O configurations to choose from
  - TCDEM-8YYX-DIU offers 16 points of configurable I/O where the user can configure each point as either an input or output
- Visible LEDs provide maintenance personnel with the ability to easily determine I/O, module & network status
- Error-memory for diagnostics via EtherNet/IP
- Rated IP67 for harsh environments
- Designed for direct machine mount applications
- IP addressing via Bootp, DHCP or static (through web interface, push button & Modbus commands)
- Standard hole pattern allows for interchangeability with popular I/O modules
- Watchdog

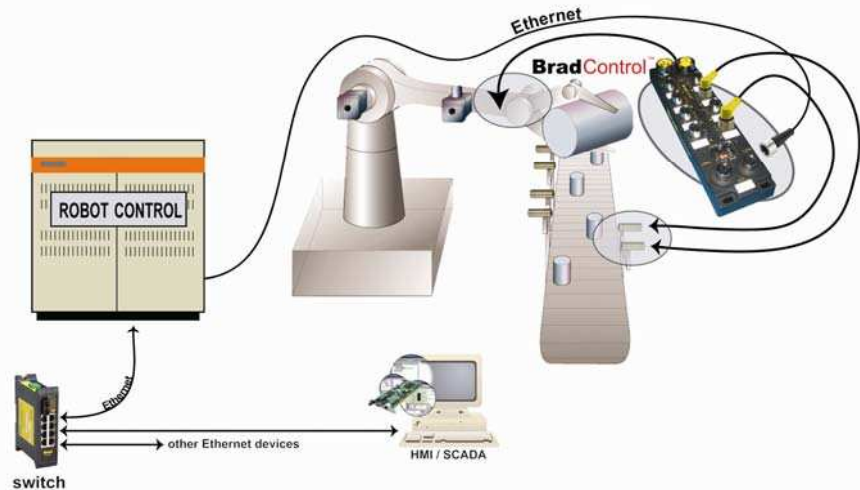
#### Typical Applications

- Machine tool industry
- Material handling systems
- Filling & packaging
- Steel industry



### I/O Systems for Harsh Duty Environments

BradControl™ EtherNet/IP I/O modules provide a reliable solution for connecting industrial controllers to I/O devices in harsh duty environments.



Contained in an IP67 rated housing, BradControl I/O modules can be machine mounted and are able to withstand areas where liquids, dust or vibration may be present. This makes them ideally suited for many applications including material handling equipment and automated assembly machinery.

Advanced network features such as 10/100 Mbps auto-sensing, web server capabilities and a flexible IP address setup method, make configuration and operation simple. Following traditional industrial fieldbus practices, standard M12 connectors from sensing devices or actuators plug directly into the I/O module. An environmentally sealed IP67 connection between the I/O module and the Ethernet network is created using the Ultra-Lock™ connection system built into the BradControl EtherNet/IP I/O module.



## LED Indicators

### Module & Input Power (I):

Green –power present  
Off –power not connected

### Output Power (O):

Green –power present  
Off –power not connected

### Display Box:

Inform about Ethernet address, IO and Watchdog status

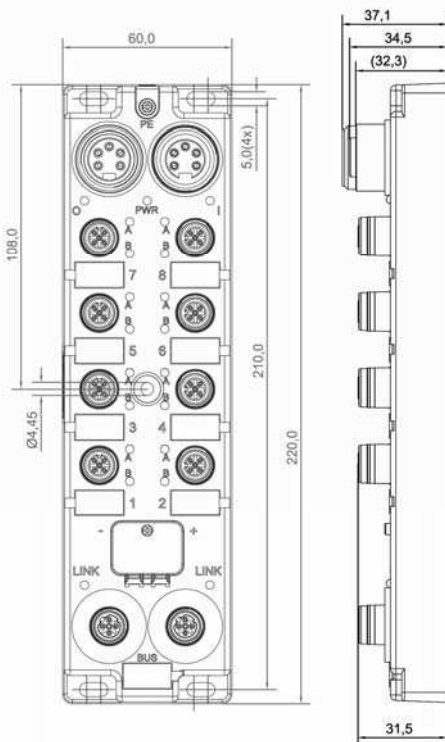
### Input / Output (Ix / Ox):

Green – input/output on  
Red – input/output fault  
Off – input/output off

### Ethernet Link (LNK 1/2):

Solid Green– Ethernet link at 100 Mbit/s without activity.  
Flashing Green– Ethernet link at 100 Mbit/s with activity.

Solid Yellow– Ethernet link at 10 Mbit/s without activity.  
Flashing Yellow – Ethernet link at 10 Mbit/s with activity.



## Technical Information

I/O Configurations	16 inputs 14 inputs / 2 outputs 12 inputs / 4 outputs 8 inputs / 8 outputs Universal & user configurable input / output channels
I/O Connectors	Micro-Change® 5-pole M12 female BradConnectivity™ Ultra-Lock™, internally threaded
Ethernet Connectors	2 connectors 4-pole female M12 D-Coded Ultra-Lock Acting as a switch. Crossover capability
Power Connectors	Power in : male Mini-Change® 5-pole Power out : female Mini-Change 5-pole
Power Requirements	Module & input power : 24 Vdc, Module output power : 24 Vdc (13 to 28 V), 8A max per module
Communications Rate	10/100 Mbps auto-sensing, auto-detecting, full duplex
IP Address Capabilities	BOOTP (default), DHCP, static address
Protocol	EtherNet/IP
Input Type	Compatible with dry contact and PNP or NPN 3-wire switches. Electronic short circuit protection
Input Delay	2.5 ms default or configurable through Modbus messaging
Input Device Supply	200 mA per port at 25°C
Output Load Current	Maximum 2.0 A per channel Electronic short circuit protection
Maximum Switching Frequency	200 Hz
Housing Dimensions	60mm x 220mm x 20mm (2.36 x 8.66 x .78 inches)
Mounting Dimensions	37.5 mm (1.48 inches) horizontal on centers 210 mm (8.27 inches) vertical on centers Center hole
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Protection	IP67 according to IEC 60529
Vibration	IEC 60068-2-6
Mechanical Shock	10G, 11ms, 3 axis
Approvals	CE, UL, cUL, ODVA

## Ordering Information

Catalog Number	SAP Material Number	Product Description
TCDEI-8DON-D1U	1120955003	8-port, M12 Ultra-Lock, 16 input, NPN
TCDEI-8C2N-D1U	1120955004	8-port, M12 Ultra-Lock, 14 input, 2 output, NPN
TCDEI-8B4N-D1U	1120955005	8-port, M12 Ultra-Lock, 12 input, 4 output, NPN
TCDEI-888N-D1U	1120955006	8-port, M12 Ultra-Lock, 8 input, 8 output, NPN
TCDEI-8DOP-D1U	1120955007	8-port, M12 Ultra-Lock, 16 input, PNP
TCDEI-8C2P-D1U	1120955008	8-port, M12 Ultra-Lock, 14 input, 2 output, PNP
TCDEI-8B4P-D1U	1120955009	8-port, M12 Ultra-Lock, 12 input, 4 output, PNP
TCDEI-888P-D1U	1120955010	8-port, M12 Ultra-Lock, 8 input, 8 output, PNP
TCDEI-8YYX-D1U	1120955011	8-port, M12 Ultra-Lock, 16 I/O user configurable

To contact us: [www.woodhead.com](http://www.woodhead.com)

Reference Number: DW2008237 Date Published: June 2008

North America: US: + 1-800-225-7724 – Canada: +1 (905) 624-6518

Europe: France: +33 (0)1 64 30 91 36 – Germany: +49 7252/94 96-0 – Italy: +39 026-6400321

United Kingdom: +44 1495 356300

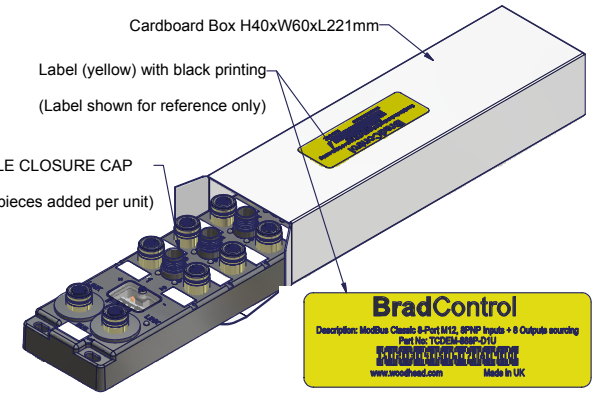
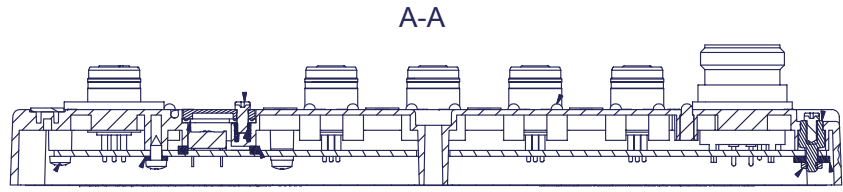
Asia: Shanghai, China: +86 21-5835-9885 – Tianjin, China: +86 22-23321717

Singapore: +65 6268-6868 – Yamato, Japan: +81 46-265-2428 – Nagoya, Japan: +81 52-221-5950

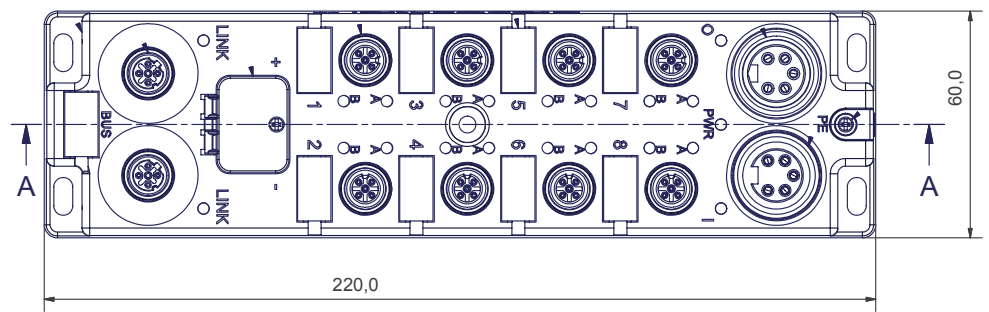
**Brad**  
from **molex**

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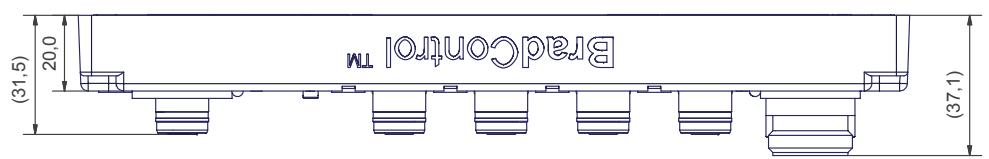
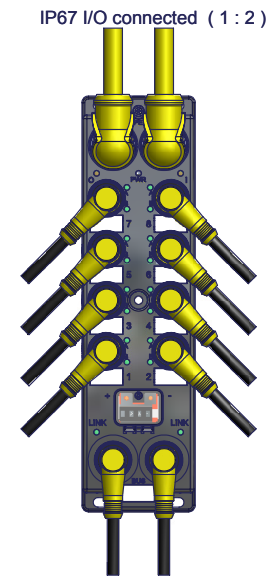
REVISIONSVERLAUF				
ZONE	REV	BEZEICHNUNG	DATUM	GENEHMIGT
-	01	INITIAL RELEASE	12.7.2006	FP



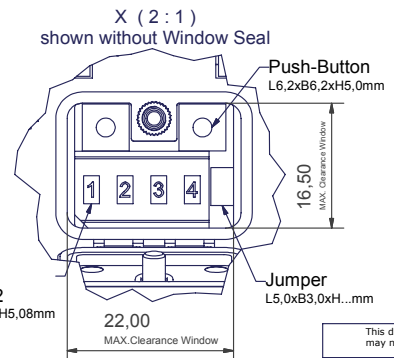
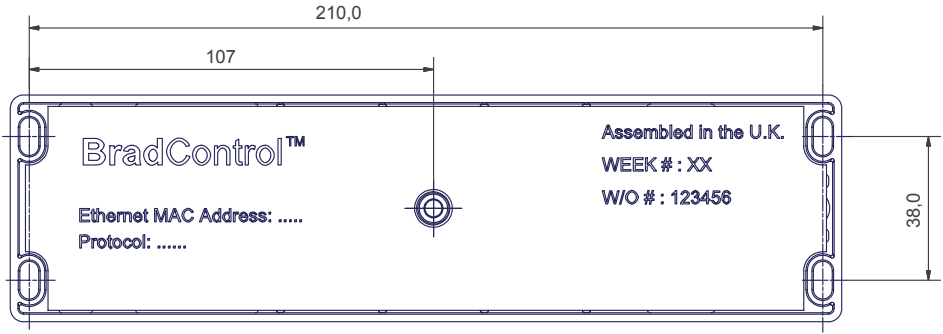
M12 MALE CLOSURE CAP  
(4 loose pieces added per unit)



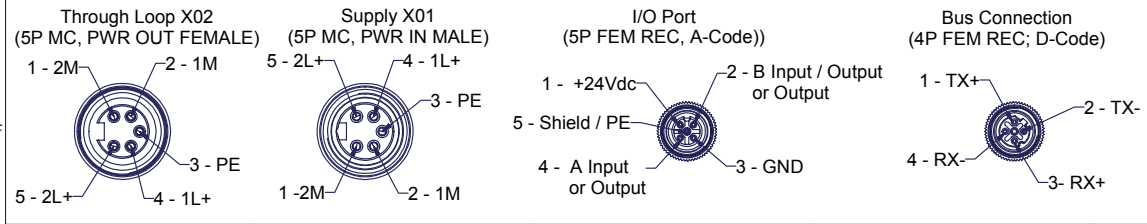
IP67 I/O connected (1:2)  
Window open (105°)



- FINAL PART NUMBERS (Configured Variations):**
- TCDEI-8D0P-D1U 16 inputs PNP
  - TCDEI-8C2P-D1U 14 inputs PNP, 2 outputs sourcing (twin wired)
  - TCDEI-8B4P-D1U 12 inputs PNP, 4 outputs sourcing
  - TCDEI-888P-D1U 8 inputs PNP, 8 outputs sourcing
  - TCDEI-8D0N-D1U 16 inputs NPN
  - TCDEI-8C2N-D1U 14 inputs NP N, 2 outputs sinking (twin wired)
  - TCDEI-8B4N-D1U 12 inputs NPN, 4 outputs sinking
  - TCDEI-888N-D1U 8 inputs NPN, 8 outputs sinking
  - TCDEI-8YYX-D1U 16 User configurable input / output channels



Display  
HCMS 2902  
L17,78xB10,16xH5,08mm



BOM / Stückliste

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PROJECTION 1: GER		UNLESS OTHERWISE SPECIFIED X = ±1 XX = ±0,1 XXX = ±0,05 Winkel = 1°		Date	12.07.2006	Name	FP
PROC		CHK		Norm.		Woodhead Connectivity GmbH	
01		SEE REV TABLE		12.07.06		FP	
Rev.		Change		Date		Name	
Gewerbstraße 60 75015 Bretten-Gölshausen Tel.: 07252/8496-0 Fax: 07252/8496-199				TCDEI-8		Sheet 1 / A2	
Filename: Y:\CAD\ETHERNET ModBus IP67 IO\DRAWINGS\TCDEM-8.ldw							